

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant : Raymond G. Gallagher  
Application No. : 09/399,545  
Filed : September 20, 1999  
Title : SPACER FRAME FOR AN INSULATING UNIT  
HAVING STRENGTHENED SIDEWALLS TO  
RESIST TORSIONAL TWIST  
Group Art Unit : 3600  
Examiner : Robert Canfield  
Confirmation No. : 2392  
Customer No. : 24959  
Attorney Docket No. : 1185R1

**RESPONSE TO OFFICE ACTION**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The following is a Response to the non-final Office Action dated  
September 29, 2010

There are no **AMENDMENTS TO THE SPECIFICATION.**

There are no **AMENDMENTS TO THE CLAIMS.**

There are no **AMENDMENTS TO THE DRAWINGS.**

**REMARKS** begin on page 2 of this paper.

### **REMARKS**

Claims 6, 9-20, 26, 27, 33-46, 48-53 and 55 are in the instant application and are rejected. No claims are allowed or indicated allowable.

Claims 35-46, 48-53 and 55 are rejected under 35 U.S.C. 251 as being an improper recapture of broadened claimed subject matter surrendered in the application for the patent upon which the present reissue is based. The Office Action notes that in the amendment filed 01/06/98 applicant added the limitation "the first and the second legs are spaced from and out of contact with one another" and argued this limitation during the procurement proceedings for U.S. Patent No. 5,813,191 (hereinafter also referred to as the "Patent") as a patentable distinction. The Office Action continues by alleging that new claims 35-46, 48-53 and 55 fail to include the limitation and that these new claims include the limitation "wherein portions of the bead on the inner surface of the frame are positioned between the inner surface of the base and the end portions of the members of the first and the second legs". The Examiner notes that this feature appears in Patent claim 20 and as this limitation was present during the prosecution of the Patent it cannot be considered an overlooked aspect.

Applicant respectfully traverses the rejection of claims 35-46, 48-53 and 55 under 35 U.S.C. 251 as being an improper recapture and requests reconsideration thereof.

The application, which matured into the Patent did not claim the feature claimed by this reissue application, which is the use of strengthening legs of a spacer to secure a bead on the inner surface of the base of the spacer as disclosed in column 8, lines 1-18 of the Patent. This feature was not claimed in the originally filed claims of the Patent.

In further detail regarding the originally filed claims and the claims of the Patent, Original claims 1-13 and Patent claims 1-12 are directed to an elongated spacer stock. None of the Original claims 1-13 and Patent claims 1-12 positively recite that the elongated spacer stock includes a bead of a

moisture pervious material having a desiccant on the surface of the base and the bead is held in position by at least one of the legs. Reissue claims 35-41 are directed to the features of an elongated spacer stock. Reissue claim 35 on which claims 36-41 are dependent recites, among other things, a

bead on the supporting surface of the base with portions of the bead between the supporting surface of the base and the end portion of the second elongated members of the first and the second legs.

Reissue Claims 36-38 recite

Reissue claim 36. The spacer stock of claim 35 wherein the end portion of at least one of the second members of the first and second legs limits movement of the bead away from the supporting surface of the base.

Reissue claim 37. The spacer stock of claim 36 wherein the bead is made of a moisture pervious material.

Reissue claim 38. The spacer stock of claim 37 wherein the bead has desiccant therein.

Since there is no limitation in Original claims 1-13 and Patent claims 1-12 relating to a "bead on ...the second legs", Reissue claims 35-41 can not violate the recapture rule because Reissue claims 35-41 are narrower than the Original claims 1-13 and Patent claims 1-12, and the Reissue claims 35-41 claim subject matter which had not been claimed and thus was overlooked during prosecution of the original patent application and which patentably distinguish the claims over the prior art.

Further Reissue claim 38 dependent on Reissue claim 35 through Reissue claims 36 and 37 recites that the end portion of at least one of the second members of the first and second legs limits movement of the bead away from the supporting surface of the base (Reissue claim 36); the bead made of a moisture pervious material (Reissue claim 37) having a desiccant

therein (Reissue claim 38). This feature of Reissue claim 38 further limits the feature of the bead on the supporting surface.

Consider now, Original claims 14-21, and Patent claims 13-20 directed to a spacer frame. Original claim 21 relating to a bead of moisture pervious material having a desiccant depends from Original claim 17, which depends from Original claim 16, which depends from Original claim 15, which depends from independent Original claim 14. Combining Original claims 14, 15, 16, 17 and 21, Original claim 21 recites a spacer frame for separating sheets of an insulating unit, the spacer frame comprising:

- a base;
- a first leg connected to the base;
- a second leg connected to the base;
- wherein the first and second legs each include a first member joined to a second member by a radiused portion to have a generally hairpin configuration with the first member joined to the base;
- wherein the end of the second member is radiused, and the radiused end of the second member is out of contact with the base;
- wherein the first and second legs and the base are connected to provide the spacer frame in cross section with a generally U-shaped cross section and the first and the second legs are formed reduce torsional twist, and
- wherein a bead of moisture pervious material having a desiccant is deposited on the surface of the base between the first and second legs defined as inner surface of the base, and the bead having portions between the radiused end of the second member of the first and second legs and the inner surface of the base.

Patent claim 20 recites a bead of moisture pervious material having a desiccant. Patent claim 20 depends from Patent 16, which depends from Patent claim 15, which depends from Patent claim 14, which depends from independent Patent claim 13. Original claim 21 was amended as follows to obtain Patent claim 20.

Patent claim 20. A spacer frame for separating sheets of an insulating unit, the spacer frame comprising:

- a base;

- a first leg connected to the base, the first leg having a first member and a second member joined together to have a generally U-shaped cross section;

- a second leg connected to the base, the first leg having a first member and a second member joined together to have a generally U-shaped cross section;

- wherein ~~first and second legs each include a first member is~~ joined to a second member by a radiused portion to have a generally hairpin configuration with the first member joined to the base;

- wherein the end of the second member is radiused, and the radiused end of the second member is out of contact with the base;

- wherein the first and second legs are spaced from and out of contact with one another and connected to the base ~~are connected to~~ provide the spacer frame ~~in cross section with a generally U-shaped cross section with open end facing in a first direction and opening of U of the first and the second legs facing in a second direction opposite to the first direction~~ and the first and the second legs ~~are formed to~~ reduce torsional twist, and

- wherein a bead of moisture pervious material having a desiccant is deposited on the surface of the base between the first and second legs defined as inner surface of the base, and the bead having portions between the radiused end of the second member of the first and second legs and the inner surface of the base.

Reissue claims 42-46 and 48 are directed to a closed spacer frame. Reissue claim 42 on which Reissue claims 43-46 and 48 are dependent recites a closed spacer frame to space sheets of an insulating unit, the closed spacer frame comprising:

- an elongated base having a supporting surface;

- an elongated first leg having a first elongated member joined to the elongated base and a second elongated member

joined to and spaced from the first elongated member of the first leg and the second elongated member of the first leg having an end portion positioned over and spaced from the supporting surface of the base;

an elongated second leg having a first elongated member joined to the elongated base and a second elongated member joined to and spaced from the first elongated member of the second leg and the second elongated member of the second leg having an end portion positioned over and spaced from the supporting surface of the base, the first elongated member and the second elongated member of the first leg joined together to provide the first leg with a U-shaped cross section and the first elongated member and the second elongated member of the second leg joined together to provide the second leg with a U-shaped cross section, and the first and the second legs and the base joined together to provide the spacer frame with a U-shaped cross section, wherein the open end of the U-shaped cross section of the first and the second legs each open in a first direction and the open end of the U-shaped cross section of the spacer frame opens in a second direction opposite to the first direction and the supporting surface of the base is between the first elongated member of the first and the second legs; and

a bead on the supporting surface of the base with portions of the bead between the supporting surface of the base and the end portion of the second elongated members of the first and second legs.

Reissue claim 42 is narrower than corresponding Patent claim 13. More particularly, Reissue claim 42 defines the supporting surface of the base as being between the first elongated member of the first and the second legs, and portions of the bead between the supporting surface of the base and the end portion of the second elongated members of the first and the second legs. Patent claim 13, on the other hand, recites that the bead is deposited on the inner surface of the base between the first and the second legs. The "inner

surface” can be between the first members of the first and second legs or between the second members of the first and second legs. In Reissue claim 42 the supporting surface is between the first members to provide for portions of the bead to be between the end of the second members of the legs and the supporting surface of the base.

Consider now Reissue claims 43-45, which recite

Reissue claim 43. The spacer frame of claim 42 wherein the end portion of at least one of the second members of the first and second legs limits movement of the bead away from the supporting surface of the base.

Reissue claim 44. The spacer frame of claim 43 wherein the bead is made of a moisture pervious material.

Reissue claim 45. The spacer frame of claim 44 wherein the bead has desiccant therein.

As noted above, Reissue claim 45 dependent on reissue claim 42 through reissue claims 43 and 44 recites that the end portion of at least one of the second members of the first and second legs limits movement of the bead away from the supporting surface of the base (reissue claim 43); the bead made of a moisture pervious material (reissue claim 44) having a desiccant therein (reissue claim 45). This feature of claim 45 further limits the feature of the bead on the supporting surface of the base.

Reissue claims 42-46 and 48 avoid the recapture rule because Reissue claims 42-46 and 48 are materially narrowed in other respects, e.g. the securing of the bead on the supporting surface of the base compared to it broadening surrendered aspect relating to the spacing and out of contact of the first and second legs of the closed spacer frame.

Consider now Original claims 22-32, and Patent claims 21-31 directed to an insulating unit. Original claim 24 covering a bead of moisture pervious

material having a desiccant depends from Original claim 21. This dependency was in error, and Original claim 24 should have depended from Original claim 22. The error was corrected during the procurement of the Patent.

Combining Original claims 22 and 24, claim 24 recites an insulating unit comprising spacer frame for separating sheets of an insulating unit, the spacer frame comprising:

- a pair of sheets;
- a spacer frame between the pair of sheets, and the spacer frame comprising:
  - a base;
  - a first leg
  - a second leg; wherein the first and second legs and base are joined to provide the spacer frame in cross section with a generally U-shaped cross section with the first and second legs shaped to reduce torsional twist;
  - a bead of a moisture pervious material having a desiccant mounted on surface of the base between the first and second legs, and
  - means for securing the sheets to the spacer frame.

Also of interest are Original claims 29 and 30, which recite:

Original claim 29. The insulating unit of claim 24 wherein the bead is between the ends of the second member and the inner surface of the base.

Original claim 30. The insulating unit of claim 29 wherein the bead is a moisture pervious adhesive.

Original claim 22 was amended to obtain Patent claim 21. The amendment to Original claim 22 is shown in below Patent claim 23, which is combined Patent claims 21 and 23 (Patent claim 23 in error depends from Patent claim 20).

Patent claim 23. An insulating unit comprising:

a pair of sheets;

a spacer frame between the pair of sheets, and the  
spacer frame comprising:

a base;

a first leg;

a second leg; wherein the first and second legs are spaced from one and out of contact with one another and joined to the base are joined to provide the spacer frame in cross section with a generally U-shaped cross section with the open end of the U facing a first direction and the first and second legs each including a first U-shaped member having two ends, one end attached to the base and the remaining end joined by a radiused portion to the second member such that the members form a generally U-shaped cross-sectional configuration with the opening of the U facing a second direction opposite to the first direction shaped to reduce torsional twist, and

a bead of a moisture pervious material having a desiccant mounted on surface of the base between the first and second legs, and

means for securing the sheets to the spacer frame.

Reissue Claims 49-53 and 55 are directed to an insulating unit.

Reissue claim 49 on which Reissue claims 50-53 and 55 are dependent recites an insulating unit comprising:

a pair of sheets;

a spacer frame between and adhered to the pair of  
sheets by an adhesive, the spacer frame comprising:

an elongated base having a supporting surface;

an elongated first leg having a first elongated member  
joined to the elongated base and a second elongated member  
joined to and spaced from the first elongated member of the first  
leg and the second elongated member of the first leg having an

end portion positioned over and spaced from the supporting surface of the base;

an elongated second leg having a first elongated member joined to the elongated base and a second elongated member joined to and spaced from the first elongated member of the second leg and the second elongated member of the second leg having an end portion positioned over and spaced from the supporting surface of the base, the first elongated member and the second elongated member of the first leg joined together to provide the first leg with a U-shaped cross section and the first elongated member and the second elongated member of the second leg joined together to provide the second leg with a U-shaped cross section, and the first and the second legs and the base joined together to provide the spacer frame with a U-shaped cross section, wherein the open end of the U-shaped cross section of the first and the second legs each open in a first direction and the open end of the U-shaped cross section of the spacer frame opens in a second direction opposite to the first direction and the supporting surface of the base is between the first elongated member of the first and the second legs; and

a bead on the supporting surface of the base with portions of the bead between the supporting surface of the base and the end portion of the second elongated members of the first and second legs.

Reissue claim 49 is narrower than Patent claim 23. More particularly, Patent claim 23 recites "a bead of a moisture pervious material having a desiccant mounted on surface of the base between the first and second legs" whereas Reissue claim 49 recites "a bead on the supporting surface of the base with portions of the bead between the supporting surface of the base and the end portion of the second elongated members of the first and second legs".

Also of interest are Reissue claims 50-52, which recite

Reissue claim 50. The insulating unit of claim 49 wherein the end portion of at least one of the second members of the first and second legs limits movement of the bead away from the supporting surface of the base.

Reissue claim 51. The insulating unit of claim 50 wherein the bead is made of a moisture pervious material.

Reissue claim 52. The insulating unit of claim 51 wherein the bead has desiccant therein.

As noted above Reissue claim 53 dependent on Reissue claim 49 through reissue claims 50-52 recites that the end portion of at least one of the second members of the first and second legs limits movement of the bead away from the supporting surface of the base (Reissue claim 50); the bead made of a moisture pervious material (Reissue claim 51) having a desiccant therein (Reissue claim 52), and the moisture pervious material is a moisture pervious adhesive (Reissue claim 53). This feature of Reissue claims 50-53 further limits the feature of the bead on the supporting surface of the base.

Reissue claims 49-53 and 55 avoid the recapture rule because Reissue claims 49-53 and 55 are materially narrowed in other respects, e.g. Reissue claim 49 recites "a bead on the supporting surface of the base with portions of the bead between the supporting surface of the base and the end portion of the second elongated members of the first and second legs", whereas Patent claim 23 recites "a bead of a moisture pervious material having a desiccant mounted on surface of the base between the first and second legs".

Patent claims 32-34 are directed to a method of making and using spacer stock material. None of the Original claims or Patent claims relate to a bead of a material on a surface of the base of the strip of bendable material. None of the Reissue claims are method claims.

Based on the foregoing, Applicant respectfully requests withdrawal of the rejection of claims 35-46, 48-53 and 55 under 35 U.S.C. 251 as being an improper recapture.

Claims 6, 9-20, 26, 27, 33-46, 48-53 and 55 are rejected as being based upon a defective reissue declaration under 35 U.S.C. 251. The Office Action alleges that the declaration alleges that the error in the patent is that the embodiment of the invention wherein portions of the bead on the inner surface of the frame are positioned between the inner surface of the base and the end portions of the members was not claimed. However Patent claim 20 provided coverage for these features, as such, the alleged error is not a proper reissue error.

Applicant respectfully traverses the rejection of claims 6, 9-20, 26, 27, 33-46, 48-53 and 55 as being based upon a defective reissue declaration under 35 U.S.C. 251 and requests reconsideration thereof. The reissue declaration states that "The embodiment of the invention wherein portions of the bead on the inner surface of the frame are positioned between the inner surface of the base and the end portions of the member as recited in column 8, lines 1-18 of U.S. Patent No. 5, 813,191 was not claimed. The embodiment of the invention not originally claimed is now claimed in at least added claim 35 (underlining added).

Column 8, lines 1-18 of U.S. Patent No. 5,813,191 states in part that:

In the practice of the invention the designs of the outer legs shown in FIGS. 2-4 are preferred because the first and second members are spaced from one another to provide a low thermal conducting path.... the bead 60 on the inner surface of the base of the spacer frame is mechanically held in position by the gap between the end portions and the inner surface of the base. ...As can now be appreciated using the spacer frame designs shown in FIGS. 2 and 4, the bead 60 may be made of a non-adhesive porous material or an adhesive material having excessive amounts of desiccant e.g. greater than 60% by

weight which adversely affects the adhesive property.

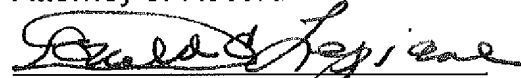
Reissue claims 35, 42 and 49 inherently cover the features recited in column 8, lines 1-18 of the Patent, and Reissue claims 36, 43 and 50 positively recite the features recited in column 8, lines 1-18 of the Patent.

Based on the forgoing, applicant respectfully requests withdrawal of the rejection of claims 6, 9-20, 26, 27, 33-46, 48-53 and 55 as being based upon a defective reissue declaration under 35 U.S.C. 251 and requests allowance of claims 6, 9-20, 26, 27, 33-46, 48-53 and 55.

This Response to the Office Action dated September 20, 2010 represents a sincere effort to place this application in condition for allowance. In the event issues remain, the Examiner is invited to call Mr. Andrew Siminerio at 412-434-4645, or the undersigned to discuss those issues before further action on the case is taken.

Respectfully submitted,

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A handwritten signature in dark ink, appearing to read "Donald C. Lepiane", written over a horizontal line.

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Pittsburgh, Pennsylvania  
October 21, 2010